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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,621	02/15/2001	Diether Rueppel	1998 / F-085	1893

23416 7590 08/30/2004

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EXAMINER	
TRAN, SUSAN T	

ART UNIT	PAPER NUMBER
1615	

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/744,621	RUEPPEL ET AL.	
	Examiner	Art Unit	
	Susan T. Tran	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of applicant's Amendment After Final filed 07/20/04.

Response to Amendment

The indicated allowability of claim 36 is withdrawn in view of the newly discovered references to Cardarelli et al. Rejections based on the newly cited references are as follow. Amendment dated 07/20/04 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Cardarelli et al. US 3,590,119.

Cardarelli discloses a controlled release rubber matrix composition comprising larvicide or insecticide (active substance) (column 3, lines 50-73; and example 1). The matrix is made of interpolymer, such as terpolymers of ethylene, including ethylene, propylene and copolymer of ethylene norbornene (column 5, lines 56-68). The composition can be prepared by mill bonding and Banbury mixing, where the terpolymer and the active substance are mixed and than mill/ground into a fine or coarse dust or powder (column 4, lines 33-57; and column 7, lines 64-72).

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 20-22, 27 and 31-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cardarelli et al. US 4,400,374 (Cardarelli '374), in view of Cardarelli et al. US 3,590,119 (Cardarelli '119).

Cardarelli '374 teaches a composition for controlled release of compounds from a dispenser including thermoplastic polymer matrix or thermoset matrix (see abstract; and column 3, lines 48-64). The compounds are selected from trace nutrient, plant growth regulators, nematicides, insecticides, molluscicides, cercariacides, aquatic larvicides, and combinations thereof; and are dispersed through the polymer matrix (column 4, lines 4-42; column 5, lines 5-15, lines 30-43; column 7, lines 4-12 and claim 10). The composition further comprises additives, such as filler (column 13, lines 28-41). The composition also comprises porosigen (diatomaceous earth) (column 15, lines 1-67). The composition can be prepared by mixing the components and then cut, chop, or ground to achieve suitable shape and size (column 17, lines 67 through column 18, lines 1-37). The thermoplastic polymer includes copolymers or terpolymers (column 7, lines 38-68).

Cardarelli '374 does not teach cycloolefine that is a norbornene-ethylene copolymer. However, Cardarelli '119 teaches a controlled release matrix made of interpolymer, such as terpolymers of ethylene, including ethylene, propylene and ethylene norbornene copolymer (column 5, lines 56-68). Thus, it would have been obvious for one of ordinary skill in the art to modify the controlled-release polymer matrix of Cardarelli '374 using the terpolymers including ethylene, propylene and ethylene norbornene in view of the teachings of Cardarelli '119, because Cardarelli '374 teaches a composition that exhibits long release duration (column 8, line 31), which can last for days, months, and even years (see abstract), because Cardarelli '119 teaches the controlled release rubber matrix is relatively safe and non-toxic to humans and higher animal forms, while they are storage stable and effective for indefinite periods of time (column 4, lines 42-45), and because Cardarelli '119 that lower dosages of the compounds over longer periods comparing to conventional composition (column 4, lines 1-7, lines 58-75). The expected result would be a stable controlled release polymer matrix comprising active compounds that is useful in agrochemical field.

Claims 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cardarelli '374, in view of Cardarelli '119 and Kanda et al. US 4,923,894.

Cardarelli '374 and Cardarelli '119 are relied upon for the reasons stated above. The references do not explicitly teach the average diameter of the particle.

Kanda teaches a polymeric microparticle encapsulating active substance having pesticidal activity (see abstract, and column 1, lines 6-18). The polymeric microparticle

has an average particle size of 0.01 to 250 microns (column 2, lines 57-60). Thus, it would have been obvious for one of ordinary skill in the art to modify the polymer matrix of Cardarelli '374 and Cardarelli '119 to have the average particle size of 0.01 to 250 μm in view of the teachings of Kanda, because Cardarelli '374 and Cardarelli '119 teach the polymer matrix can be cut, chopped or ground to achieve a suitable size, and because Kanda teaches polymeric microparticle having average particle size of 0.01-250 μm for retaining good dispersibility, reactivity and stability (column 2, lines 59-61). The expected result would be a stable controlled release polymer matrix comprising active compounds that is useful in agrochemical field.

Claims 23-25, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cardarelli '374, in view of Cardarelli '119 and Jacobs et al. WO 98/27125 (equivalent to US 6,365,686, hereafter Jacobs '686).

Cardarelli '374 and Cardarelli '119 are relied upon for the reasons stated above. The references are silent as to the teaching of the physical/chemical properties of the thermoplastic polymer. However, products of identical chemical composition cannot have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). However, to be more significant, Jacobs '686 teaches cycloolefin copolymers such as ethylene norbornene that has a glass transition temperatures of from -50°C to 220°C, an average molar

masses of 1000 to 10,000 g/mol, and a viscosity of from 10 to 1000 ml/g (column 24, lines 1-67). Thus, it would have been obvious for one of ordinary skill in the art to modify the polymer matrix of Cardarelli '374 and Cardarelli '119 using the ethylene-norbornene copolymer in view of the teaching of Jacobs '686, because Cardarelli '119 teaches the polymer matrix is made of terpolymer including copolymer of ethylene norbornene (column 5, lines 60-68), and because Jacobs '686 teaches cycloolefin copolymers are suitable for use as thermoplastic molding composition of any size and shape (column 1, lines 13-18; and column 25, lines 43-49). The expected result would be a stable controlled release polymer matrix comprising active compounds that is useful in agrochemical field.

Claims 30 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cardarelli '374, in view of Cardarelli '119 and Eby, III US 5,409,905.

Cardarelli '374 and Cardarelli '119 are relied upon for the reasons stated above. The references do not explicitly teach the use of the polymer matrix in a pharmaceutical composition. However, Cardarelli '374 teaches thermoplastic polymer matrix use to control release of trace nutrient including zinc (column 4, lines 7-11). It is the position of the examiner that zinc is known for the treatment of cold. To be more significant, Eby teaches the use of zinc for the treatment of common cold (see abstract). Thus, it would have been obvious for one of ordinary skill in the art to modify the polymer matrix of Cardarelli '374 and Cardarelli '119 for the slow release of zinc useful for the treatment of common cold in view of the teaching of Eby, because Eby teaches the use of zinc in a

pharmaceutical composition that has a pleasant taste and slowly release zinc over a prolong period of time (column 10, lines 22-30), because Eby teaches a zinc composition that is non-toxic, thermally, chemically, and flavor stable for over long period of storage time (column 7, lines 60-65), because Cardarelli '374 teaches a composition that exhibits long release duration (column 8, line 31), which can last for days, months, and even years (see abstract), because Cardarelli '119 teaches the controlled release rubber matrix is relatively safe and non-toxic to humans and higher animal forms, while they are storage stable and effective for indefinite periods of time (column 4, lines 42-45). The expected result would be a stable controlled release polymer matrix comprising active compounds that is useful in pharmaceutical art.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan T. Tran whose telephone number is (571) 272-0606. The examiner can normally be reached on M-R from 6:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page, can be reached at (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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